

# ECONOMIC AND PLANNING SYSTEMS

## Technical Appendix

### Fiscal Impacts of the University of California at Berkeley Long Range Development Plan upon the City of Berkeley

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## OVERVIEW OF THE FISCAL IMPACT MODEL

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The Economic and Planning Systems Fiscal Impact Model is a local government budget-based model consisting of an interactive set of microcomputer spreadsheets, manual inputs and procedures, and necessary operational documentation. Its purpose is to estimate the impact of a particular "project" on the operating budget of one or more jurisdictions (e.g. a city or county). Required capital expenditures are generally excluded from this analysis.

The spreadsheets which form the analytical core of the Model consist of a series of Lotus ® 1-2-3 ® templates. Each template accepts input from the analyst, or from other computer files, then analyzes the data to produce a cost-revenue summary for a specified project (including changes in the form of government organization). The templates are designed to allow modification based on a project's unique characteristics, the particular form of a government agency's budget, or various estimating procedures (dependent upon the impacts to be analyzed, and time available for analysis).

The model is designed as a set of "analytical tools", rather than as a "black box". This approach uses the model as a framework for analysis by making all assumptions explicit and available for review, and by providing a complete checklist of potential impacts which must be addressed explicitly (either by dealing with the impact directly or specifically recognizing it as having no impact).

The basic steps required to conduct a fiscal analysis using the model include:

Step 1 - Quantification of the Project Description. The model is based upon a time-series approach which requires year-by-year estimates of changes resulting from a given project or action. Alternatively, a single point in time may be utilized when comparing alternative buildout scenarios for planning purposes. In the case of UC Berkeley's Long Range Development Plan (LRDP), this step also involved conversion of the building sizes discussed in the Plan and the EIR into potential increases in students, faculty, staff and other campus population.

Step 2 - Budget Analysis and Input. The operating budget of the jurisdiction conducting the analysis (or other jurisdictions being considered) serves as the "data base format" of the model. Each individual budget item, including all costs and revenues, is coded relative to the type of impact expected due to the project, and also the analytical method that will be used to calculate the potential impact. For the City of Berkeley, the General Fund and the 34 other operating funds were combined into one set of costs and revenues.

Step 3 - Cost and Revenue Estimating Procedures. A specific analysis is conducted of each budget item identified in Step 2 as potentially being affected by the project. A variety of analytical techniques are utilized, from simple average cost/revenue estimates to "case studies" involving interviews with affected departments and other special analysis. Compli-





cated revenue items such as the sales and business tax projections require computer sub-routines which are "driven" by the project description prepared in Step 1, and other base data.

Step 4 - Impact Analysis. The results of the cost and revenue estimating procedures are summarized and combined in the budget model in order to forecast the net fiscal impact of the Project upon the relevant jurisdiction's operating budget.

The analysis presents all numbers in "constant dollar" terms. It is assumed that inflation will affect both costs and revenues equally; therefore costs and revenues are kept in current year, or constant dollar, terms.

Certain items which are not affected by inflation are "deflated" to reflect the decreased spending power of those dollars. For example, revenues which are fixed or capped, such as property tax revenues (limited to a 2% annual increase unless ownership is transferred). Costs such as fixed bond payments are also deflated to reflect the reduced number of today's dollars required to meet the payments.

The tables that follow present the fiscal analysis conducted for the LRDP As Proposed. The other three Alternatives were analyzed in a similar manner utilizing the same basic assumptions. The last table, **Table DB-1**, shows the database of Alternative-specific information underlying each respective analysis.

The Table Index briefly describes the purpose of each enclosed table. Model tables which were not utilized, such as those relating to property tax revenue calculation, are marked with an asterisk. The results of the analysis of the Project, and of each of the other Alternatives, is discussed in the report which this Technical Appendix accompanies.



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\* Table Not Used





Table 1  
General Assumptions  
Alternative I--LRDP As Proposed

Model Run		Existing Conditions	
Manual Entry Job Control  General	Alternative I	Dwelling Units	0
		Assessed Value	0
		Road Miles	213
		City Population	107,280
		Employees	62,620
		Public Buildings	0
Start Year	1990		
Current Year	1990		
Inflation	4.0%		
Interest Rate	NA		
Legislated Appreciation	2.0%		



Table 2  
Land Use Assumptions  
Alternative I--LRDP As Proposed

Land Use	Descriptive Units	Value per SQFT or UNIT	Existing Base Value	Real Market Appreciation Rate	Property Tax Appreciation Rate	Demographics			Active Land Use Control	Active Existing Base Control
						Persons per unit	Students per unit	Space Use By Employees		
Campus/Hill Are	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Off-Campus	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Res w/ PILOT	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Retail /w PILOT	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	250	1	1
Students	persons	\$0	\$0	0.0%	0.0%	0.0	1.0	0	1	0
Academic Staff	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
Staff	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
Visitors	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
UC Residents	persons	\$0	\$0	0.0%	0.0%	1.0	0.0	0	1	1
Not Active (10)	NA	\$0	\$0	0.0%	0.0%	0.0	0.0	0	0	0





Table 2  
Land Use Assumptions  
Alternative I--LRDP As Proposed

Land Use	Descriptive Units	Value per SQFT or UNIT	Existing Base Value	Real Market Appreciation Rate	Property Tax Appreciation Rate	Demographics			Active Land Use Control	Active Existing Base Control
						Persons per unit	Students per unit	Space Use By Employees		
Campus/Hill Are	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Off-Campus	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Res w/ PILOT	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Retail /w PILOT	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	250	1	1
Students	persons	\$0	\$0	0.0%	0.0%	0.0	1.0	0	1	0
Academic Staff	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
Staff	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
Visitors	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
UC Residents	persons	\$0	\$0	0.0%	0.0%	1.0	0.0	0	1	1
Not Active (10)	NA	\$0	\$0	0.0%	0.0%	0.0	0.0	0	0	0





Table 2  
Land Use Assumptions  
Alternative I--LRDP As Proposed

Land Use	Descriptive Units	Value per SQFT or UNIT	Existing Base Value	Real Market Appreciation Rate	Property Tax Appreciation Rate	Demographics			Active Land Use Control	Active Existing Base Control
						Persons per unit	Students per unit	Space Use By Employees		
Campus/Hill Are	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Off-Campus	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Res w/ PILOT	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	0	1	1
Retail /w PILOT	GSF	\$0	\$0	1.0%	2.0%	0.0	0.0	250	1	1
Students	persons	\$0	\$0	0.0%	0.0%	0.0	1.0	0	1	0
Academic Staff	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
Staff	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
Visitors	persons	\$0	\$0	0.0%	0.0%	0.0	0.0	1	1	1
UC Residents	persons	\$0	\$0	0.0%	0.0%	1.0	0.0	0	1	1
Not Active (10)	NA	\$0	\$0	0.0%	0.0%	0.0	0.0	0	0	0



Table 3  
Buildout Schedule  
Alternative I--LRDP As Proposed

Land Use	TOTAL	1990	1991	1992	1993	1994	1995	1996	1997	1998	...	2005
Annual												
Campus/Hill Area (GSF)	1,044,605	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288		65,288
Off-Campus (GSF)	1,263,450	78,966	78,966	78,966	78,966	78,966	78,966	78,966	78,966	78,966		78,966
Res w/ PILOT (GSF)	400,523	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033		25,033
Retail /w PILOT (GSF)	71,700	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481		4,481
Students (persons)	(1,164)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)		(73)
Academic Staff (persons)	740	46	46	46	46	46	46	46	46	46		46
Staff (persons)	432	27	27	27	27	27	27	27	27	27		27
Visitors (persons)	0	0	0	0	0	0	0	0	0	0		0
UC Residents (persons)	4,702	294	294	294	294	294	294	294	294	294		294
Not Active (10) (NA)	0	0	0	0	0	0	0	0	0	0		0
Cumulative												
Campus/Hill Area (GSF)		65,288	130,576	195,863	261,151	326,439	391,727	457,015	522,303	587,590		1,044,605
Off-Campus (GSF)		78,966	157,931	236,897	315,863	394,828	473,794	552,759	631,725	710,691		1,263,450
Res w/ PILOT (GSF)		25,033	50,065	75,098	100,131	125,163	150,196	175,229	200,262	225,294		400,523
Retail /w PILOT (GSF)		4,481	8,963	13,444	17,925	22,406	26,888	31,369	35,850	40,331		71,700
Students (persons)		(73)	(146)	(218)	(291)	(364)	(437)	(509)	(582)	(655)		(1,164)
Academic Staff (persons)		46	93	139	185	231	278	324	370	416		740
Staff (persons)		27	54	81	108	135	162	189	216	243		432
Visitors (persons)		0	0	0	0	0	0	0	0	0		0
UC Residents (persons)		294	588	882	1,176	1,469	1,763	2,057	2,351	2,645		4,702
Not Active (10) (NA)		0	0	0	0	0	0	0	0	0		0





Table 7  
Demographics  
Alternative I--LRDP As Proposed

Item	Total	1990	1991	1992	1993	1994	1995	1996	1997	1998	...	2005
Population												
Campus/Hill Area	0	0	0	0	0	0	0	0	0	0		0
Off-Campus	0	0	0	0	0	0	0	0	0	0		0
Res w/ PILOT	0	0	0	0	0	0	0	0	0	0		0
Retail /w PILOT	0	0	0	0	0	0	0	0	0	0		0
Students	0	0	0	0	0	0	0	0	0	0		0
Academic Staff	0	0	0	0	0	0	0	0	0	0		0
Staff	0	0	0	0	0	0	0	0	0	0		0
Visitors	0	0	0	0	0	0	0	0	0	0		0
UC Residents	4,702	294	294	294	294	294	294	294	294	294		294
Not Active (10)	0	0	0	0	0	0	0	0	0	0		0
Annual Total	4,702	294	294	294	294	294	294	294	294	294		294
Cumulative Total		294	588	882	1,176	1,469	1,763	2,057	2,351	2,645		4,702
Students												
Campus/Hill Area	0	0	0	0	0	0	0	0	0	0		0
Off-Campus	0	0	0	0	0	0	0	0	0	0		0
Res w/ PILOT	0	0	0	0	0	0	0	0	0	0		0
Retail /w PILOT	0	0	0	0	0	0	0	0	0	0		0
Students	(1,164)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)		(73)
Academic Staff	0	0	0	0	0	0	0	0	0	0		0
Staff	0	0	0	0	0	0	0	0	0	0		0
Visitors	0	0	0	0	0	0	0	0	0	0		0
UC Residents	0	0	0	0	0	0	0	0	0	0		0
Not Active (10)	0	0	0	0	0	0	0	0	0	0		0
Annual Total	(1,164)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)		(73)
Cumulative Total		(73)	(146)	(218)	(291)	(364)	(437)	(509)	(582)	(655)		(1,164)
Campus Employees												
Campus/Hill Area	0	0	0	0	0	0	0	0	0	0		0
Off-Campus	0	0	0	0	0	0	0	0	0	0		0
Res w/ PILOT	0	0	0	0	0	0	0	0	0	0		0
Retail /w PILOT	287	18	18	18	18	18	18	18	18	18		18
Students	0	0	0	0	0	0	0	0	0	0		0
Academic Staff	740	46	46	46	46	46	46	46	46	46		46





Table 7  
Demographics  
Alternative I--LRDP As Proposed

Item	Total	1990	1991	1992	1993	1994	1995	1996	1997	1998	...	2005
Staff	432	27	27	27	27	27	27	27	27	27		27
Visitors	0	0	0	0	0	0	0	0	0	0		0
UC Residents	0	0	0	0	0	0	0	0	0	0		0
Not Active (10)	0	0	0	0	0	0	0	0	0	0		0
Annual Total	1,459	91	91	91	91	91	91	91	91	91		91
Cumulative Total		91	182	274	365	456	547	638	729	821		1,459



Table 8  
Budget Revenues  
Alternative I--LRDP As Proposed

ITEM	1989-90 BUDGET	% OF BUDGET	ESTIMATING PROCEDURE	BUDGET MULTIPLIER
Property Tax	\$16,024,632	12.1%	Not Evaluated	
Sales and Use Tax	9,243,178	7.0%	(See Note 2)	
Utility Users Tax	6,002,685	4.5%	Not Evaluated	
Transient Occupancy Tax	2,051,010	1.6%	Not Evaluated	
Parking Lot Tax	200,000	0.2%	Not Evaluated	
Property Transfer Tax	2,350,000	1.8%	Not Evaluated	
Business Taxes	4,405,984	3.3%	(See Note 6)	
Other Licenses	18,500	0.0%	Not Evaluated	
Building Permits	1,069,613	0.8%	Offsets Costs	
Miscellaneous Permits	275,900	0.2%	Not Evaluated	
Fines and Penalties	3,740,000	2.8%	50% of Per Capita/Employees	\$11.01
Franchise Fees	546,000	0.4%	Not Evaluated	
Other Local GF Revenues	6,708,229	5.1%	Not Evaluated	
Motor Vehicle In-Lieu	3,600,000	2.7%	Per Capita	\$33.56
Cigarette Tax	250,000	0.2%	Per Capita	\$2.33
Other State/County Subventions	1,253,191	0.9%	Not Evaluated	
Other General Fund Disc. Revenues	2,387,835	1.8%	Not Evaluated	
Federal JTPA Grants	1,052,273	0.8%	Not Evaluated	
Federal CDBG Grants	3,123,317	2.4%	Not Evaluated	
State Health/Nutrition Grants	3,608,010	2.7%	Not Evaluated	
County Non-Disc. Grants	496,648	0.4%	Not Evaluated	
Other GF Non-Disc. Revenues	3,259,107	2.5%	Not Evaluated	
Off-Street Parking	1,027,327	0.8%	Not Evaluated	
Parking Meters	2,973,000	2.3%	Not Evaluated/Covers Costs	
Marina Operations/Concessions	2,308,662	1.7%	Not Evaluated	
Library Relief Tax	6,010,000	4.6%	Not Evaluated	
Library Fines	83,000	0.1%	Not Evaluated	
Sewer Service Charges	11,200,000	8.5%	Not Evaluated	
State Gas Tax	1,710,000	1.3%	Per Capita (Deflated)	\$15.94
County Road Fund Grant	1,350,000	1.0%	Not Evaluated	
Other Subventions and Grants	7,217,059	5.5%	Not Evaluated	
Refuse Collection & Surcharge	10,093,850	7.6%	Not Evaluated	
Street Lighting Assessment	1,419,200	1.1%	Not Evaluated	
Landscaping Assessment	5,059,750	3.8%	Not Evaluated	
Other Current Revenues	9,843,236	7.5%	Not Evaluated	
TOTAL	\$131,961,196	100.0%		



Table 8  
Budget Revenues  
Alternative I--LRDP As Proposed

ITEM	Fiscal Year Ending									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	... 2005
(all figures in 1989 dollars)										
Property Tax										
Sales and Use Tax	1,529	3,059	4,588	6,118	7,647	9,177	10,706	12,236	13,765	24,471
Utility Users Tax										
Transient Occupancy Tax										
Parking Lot Tax										
Property Transfer Tax										
Business Taxes	193	386	580	773	966	1,159	1,352	1,546	1,739	3,091
Other Licenses										
Building Permits										
Miscellaneous Permits										
Fines and Penalties	3,437	6,875	10,312	13,749	17,187	20,624	24,061	27,499	30,936	54,997
Franchise Fees										
Other Local GF Revenues										
Motor Vehicle In-Lieu	9,862	19,723	29,585	39,446	49,308	59,169	69,031	78,893	88,754	157,785
Cigarette Tax	685	1,370	2,054	2,739	3,424	4,109	4,794	5,479	6,163	10,957
Other State/County Subventions										
Other General Fund Disc. Revenues										
Federal JTPA Grants										
Federal CDBG Grants										
State Health/Nutrition Grants										
County Non-Disc. Grants										
Other GF Non-Disc. Revenues										
Off-Street Parking										
Parking Meters										
Marina Operations/Concessions										
Library Relief Tax										
Library Fines										
Sewer Service Charges										
State Gas Tax	4,684	8,662	12,493	16,016	19,251	22,212	24,918	27,382	29,620	40,015
County Road Fund Grant										
Other Subventions and Grants										
Refuse Collection & Surcharge										
Street Lighting Assessment										
Landscaping Assessment										
Other Current Revenues										
TOTAL	20,391	40,074	59,612	78,842	97,782	116,450	134,862	153,033	170,977	291,317





Table 9  
Budget Costs  
Alternative I--LRDP As Proposed

ACTIVITY	1989-90 BUDGET	% OF BUDGET	ESTIMATING PROCEDURE	BUDGET MULTIPLIER
General Government	\$12,283,421	8.5%	% of Incremental Costs (1)	9.33%
Emergency Medical Svcs	1,400,000	6.2%	(See Note 9)	
Fire Protection	8,959,253	10.7%	(See Note 9)	
Police	15,400,902	10.7%	(See Note 8)	
Jail Operations	763,778	0.5%	Not Evaluated	
Parking	4,688,197	3.3%	Offset by Revenues	
Other Public Safety	3,875,284	2.7%	% of Incremental PS Costs (1)	13.0%
Planning & Community Development	9,654,011	6.7%	Cost of Half-time Planner	
Recycling/St. Lights/Gen. Mtce./etc.	13,507,467	9.4%	Not Evaluated	
Refuse Collection/Transfer Station	8,847,921	6.1%	Covered by Fees	
Traffic and Roads	2,620,996	1.8%	Not Yet Quantified	
Sanitary Sewer	2,718,017	1.9%	(See Note 13)	
Capital Improvements	21,356,322	14.8%	Not Evaluated	
Other Public Works	665,941	0.5%	% of Incremental PW Costs	1.4%
Health & Human Services	14,528,640	10.1%	Not Evaluated	
Rent Stabilization	1,545,990	1.1%	Not Evaluated	
Library	6,211,522	4.3%	Not Evaluated	
Public Safety Pensions	3,681,000	2.6%	Not Evaluated	
Non-Departmental	11,280,000	7.8%	Not Evaluated	
TOTAL	\$143,988,662	109.7%		



Table 9  
Budget Costs  
Alternative I--LRDP As Proposed

ACTIVITY	Fiscal Year Ending									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	... 2005
(all figures in 1989 dollars)										
General Government	4,779	7,133	9,486	11,840	14,194	16,548	18,902	21,255	23,609	40,086
Emergency Medical Svcs	556	1,112	1,667	2,223	2,779	3,335	3,890	4,446	5,002	8,892
Fire Protection	8,484	16,968	25,451	33,935	42,419	50,903	59,387	67,870	76,354	135,741
Police	0	114,936	114,936	229,873	229,873	450,468	450,468	565,404	565,404	910,214
Jail Operations										
Parking										
Other Public Safety	1,175	2,350	3,525	4,700	5,875	7,050	8,225	9,400	10,575	18,801
Planning & Community Development	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000
Recycling/St. Lights/Gen. Mtce./etc.										
Refuse Collection/Transfer Station										
Traffic and Roads	0	0	0	0	0	0	0	0	0	0
Sanitary Sewer	15,371	30,741	46,112	61,483	76,853	92,224	107,595	122,965	138,336	245,930
Capital Improvements										
Other Public Works	209	417	626	835	1,043	1,252	1,461	1,669	1,878	3,339
Health & Human Services										
Rent Stabilization										
Library										
Public Safety Pensions										
Non-Departmental										
TOTAL	\$56,573	\$199,657	\$227,805	\$370,889	\$399,036	\$647,779	\$675,927	\$819,011	\$847,159	\$1,389,003





Table 10  
Budget Summary - New Development  
Alternative I--LRDP As Proposed

Fund	TOTAL	Fiscal Year Ending									
		1990	1991	1992	1993	1994	1995	1996	1997	1998	... 2005
(all figures in 1989 dollars)											
Revenues											
Sales and Use Tax	\$208,004	\$1,529	\$3,059	\$4,588	\$6,118	\$7,647	\$9,177	\$10,706	\$12,236	\$13,765	\$24,471
Business Taxes	26,274	193	386	580	773	966	1,159	1,352	1,546	1,739	3,091
Fines and Penalties	467,476	3,437	6,875	10,312	13,749	17,187	20,624	24,061	27,499	30,936	54,997
Motor Vehicle In-Lieu	1,341,174	9,862	19,723	29,585	39,446	49,308	59,169	69,031	78,893	88,754	157,785
Cigarette Tax	93,137	685	1,370	2,054	2,739	3,424	4,109	4,794	5,479	6,163	10,957
State Gas Tax	418,935	4,684	8,662	12,493	16,016	19,251	22,212	24,918	27,382	29,620	40,015
TOTAL	\$2,555,001	\$20,391	\$40,074	\$59,612	\$78,842	\$97,782	\$116,450	\$134,862	\$153,033	\$170,977	\$291,317
Expenditures											
General Government	\$358,918	\$4,779	\$7,133	\$9,486	\$11,840	\$14,194	\$16,548	\$18,902	\$21,255	\$23,609	\$40,086
Emergency Medical Svcs	75,584	556	1,112	1,667	2,223	2,779	3,335	3,890	4,446	5,002	8,892
Fire Protection	1,153,795	8,484	16,968	25,451	33,935	42,419	50,903	59,387	67,870	76,354	135,741
Police	8,173,367	0	114,936	114,936	229,873	229,873	450,468	450,468	565,404	565,404	910,214
Other Public Safety	159,807	1,175	2,350	3,525	4,700	5,875	7,050	8,225	9,400	10,575	18,801
Planning & Community Dev	416,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000	26,000
Traffic and Roads	NA *	NA *	NA *	NA *	NA *	NA *	NA *	NA *	NA *	NA *	NA *
Sanitary Sewer	2,090,408	15,371	30,741	46,112	61,483	76,853	92,224	107,595	122,965	138,336	245,930
Other Public Works	28,381	209	417	626	835	1,043	1,252	1,461	1,669	1,878	3,339
TOTAL	\$12,456,260	\$56,573	\$199,657	\$227,805	\$370,889	\$399,036	\$647,779	\$675,927	\$819,011	\$847,159	\$1,389,003
OPERATING SURPLUS (DEFICIT)		(\$36,182)	(\$159,582)	(\$168,193)	(\$292,047)	(\$301,254)	(\$531,329)	(\$541,065)	(\$665,979)	(\$676,182)	(\$1,097,685)

\* These costs are expected to be significant. However, they were not estimated since the necessary data is not readily available.



Note 1  
Per Capita/Per Capita And Employees/Per Employee  
Alternative I--LRDP As Proposed

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Existing City costs/revenues are divided by total existing City population and/or number of employees. This factor is multiplied by new population and/or new employees to obtain projections.

Existing Population = 107280  
Existing Employees = 62620

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Note 2  
Sales Tax  
Alternative I--LRDP As Proposed

Description	Year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	... 2005
Sales Tax Rate	0.95%									
Annual Berkeley Retail Sales Per:										
Dorm/UC Apartment Resident	\$2,500									
Other Student	\$2,000									
Daily Sales in Berkeley per										
Academic and Other Staff	\$7.00									
Work Days per year	250									
Cumulative New UC Residents	294	588	882	1,176	1,469	1,763	2,057	2,351	2,645	4,702
Cumulative Other Students	(367)	(733)	(1,100)	(1,467)	(1,833)	(2,200)	(2,566)	(2,933)	(3,300)	(5,866)
Cumulative Academic/Other Staff	91	182	274	365	456	547	638	729	821	1,459
Tax due to New UC Residents	6,980	13,959	20,939	27,918	34,898	41,877	48,857	55,836	62,816	111,673
Tax due to Other Students	(6,966)	(13,932)	(20,898)	(27,864)	(34,829)	(41,795)	(48,761)	(55,727)	(62,693)	(111,454)
Tax due to Academic/Other Staff	1,516	3,032	4,547	6,063	7,579	9,095	10,610	12,126	13,642	24,253
Total Annual Sales Tax	1,529	3,059	4,588	6,118	7,647	9,177	10,706	12,236	13,765	24,471





Note 6  
 Business Taxes  
 Alternative I--LRDP As Proposed

Description	1990	1991	1992	1993	1994	1995	1996	1997	1998	...	2005
Business Tax Percentage of Commercial Sales =	0.12%										
Cumulative Increase in Retail Sales	160,994	321,988	482,981	643,975	804,969	965,963	1,126,956	1,287,950	1,448,944		2,575,900
Business Tax Revenues	193	386	580	773	966	1,159	1,352	1,546	1,739		3,091



Note 8  
Police  
Alternative I--LRDP As Proposed

		Year									
		1990	1991	1992	1993	1994	1995	1996	1997	1998	... 2005
Total Cost per Police Officer	\$105,659										
Total Cost per Seargant	\$114,936										
Officers per 1000 people	1.57										
Seargants per Officer	0.17										
New Population (1000s)		0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.6	4.7
Officers Required		0	1	1	2	2	3	3	4	4	7
Seargants Required		0	0	0	0	0	1	1	1	1	1
Total Police Costs	8,173,367	0	114,936	114,936	229,873	229,873	450,468	450,468	565,404	565,404	910,214





Note 9  
Fire  
Alternative 1--LRDP As Proposed

		Fire Dept. Budget Excluding EMS (3)	\$8,959,253
		1988 Fire Emergency Responses	
Emergency Medical Service		UC Berkeley Campus	279
Projected EMS Cost (1)	\$2,689,000	Other	1,947
Projected calls	6,819	TOTAL	2,226
Projected EMS Cost/call	\$394		
		Existing Campus Situation	
Revenues per call (2)	\$350	Non-Residential Gross Square Feet	8,318,421
Net EMS Cost per call	\$44	Residential Gross Square Feet	1,494,761
		Campus Population	44,903
Calls Per Capita/Employees	0.0401	Dorm Population	5,014
		Other Fire Cost per	
Net Cost Per Capita/Employees	\$1.78	Building Gross Square Feet (4)	\$0.0286
		Campus Pop/Dorm Residents (4)	\$11.2479

	Fiscal Year Ending										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	...	2005
EMS Cost	556	1,112	1,667	(all figures in 1989 dollars)							
Fire Protection Cost (3)	8,484	16,968	25,451	2,223	2,779	3,335	3,890	4,446	5,002		8,892
				33,935	42,419	50,903	59,387	67,870	76,354		135,741

(1) This figure includes all direct and indirect costs, and is based on an increase from the current two ambulance service to three ambulances.

(2) Assumes new students/faculty/staff and/or their insurance companies pay the full amount charged by the Fire Department.

(3) Includes direct costs for the Fire Department except for EMS costs.

(4) Two factors are assumed to affect the Other Fire Cost related to the University.

- a. One-half of total costs to provide fire protection to the University is assumed to be related to the total existing square footage on campus. New buildings on campus are assumed to have a lesser impact than existing buildings since they are projected to include sprinklers and other similar fire protection devices. Accordingly, the impact of the new buildings is assumed to be half that of the existing buildings.
- b. The remaining half of fire protection costs are assumed to be related to the new dorm residents, other students and other persons on the campus. The impacts of these two factors are then combined to calculate the additional costs of providing fire service to the campus due to the development proposed in the LRDP.



Note 13  
Sanitary Sewer Costs  
Alternative I--LRDP As Proposed

		Year										
Description		1990	1991	1992	1993	1994	1995	1996	1997	1998	...	2005
Additional Annual Wastewater Flow in ccf (1,2)												
Off Campus Buildings		9,030	18,060	27,090	36,119	45,149	54,179	63,209	72,239	81,269		144,477
Campus/Hill Area Buildings		5,435	10,869	16,304	21,738	27,173	32,607	38,042	43,476	48,911		86,953
Sanitary Sewer Costs	costs											
-----	per ccf											
Off Campus Buildings												
Operations and Maintenance	\$0.345	3,114	6,228	9,343	12,457	15,571	18,685	21,799	24,913	28,028		49,827
Replacement	\$0.201	1,817	3,633	5,450	7,267	9,083	10,900	12,717	14,533	16,350		29,067
Capital	\$0.998	9,013	18,026	27,039	36,053	45,066	54,079	63,092	72,105	81,118		144,210
Campus/Hill Area Buildings (3)												
Operations and Maintenance	\$0.059	319	637	956	1,274	1,593	1,912	2,230	2,549	2,868		5,098
Replacement	\$0.034	186	372	558	743	929	1,115	1,301	1,487	1,673		2,974
Capital	\$0.170	922	1,844	2,766	3,689	4,611	5,533	6,455	7,377	8,299		14,755
Total Sanitary Sewer Costs		\$15,371	\$30,741	\$46,112	\$61,483	\$76,853	\$92,224	\$107,595	\$122,965	\$138,336		\$245,930

(1) Excludes flow due to Infiltration/Inflow (I/I)

(2) ccf = 100 cubic feet

(3) Costs per ccf for Campus Buildings equal standard costs x 17% since these buildings only use trunk sewer facilities, which require 17% of total sanitary sewer expenditures.

Source: Brown & Caldwell



Table DB-1  
Project Description Database  
Alternative IV--Full Occupancy

Alternative Name	Land Use	1998	1999	2000	2001	2002	2003	2004	2005
Annual Sq.Ft./Persons									
Alternative I	Campus/Hill Area	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288
Alternative I	Off-Campus	78,966	78,966	78,966	78,966	78,966	78,966	78,966	78,966
Alternative I	Res w/ PILOT	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033
Alternative I	Retail /w PILOT	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481
Alternative I	Students	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)
Alternative I	Academic Staff	46	46	46	46	46	46	46	46
Alternative I	Staff	27	27	27	27	27	27	27	27
Alternative I	Visitors	0	0	0	0	0	0	0	0
Alternative I	UC Residents	294	294	294	294	294	294	294	294
Alternative II	Campus/Hill Area	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288
Alternative II	Off-Campus	0	0	0	0	0	0	0	0
Alternative II	Res w/ PILOT	0	0	0	0	0	0	0	0
Alternative II	Retail /w PILOT	0	0	0	0	0	0	0	0
Alternative II	Students	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)
Alternative II	Academic Staff	46	46	46	46	46	46	46	46
Alternative II	Staff	27	27	27	27	27	27	27	27
Alternative II	Visitors	0	0	0	0	0	0	0	0
Alternative II	UC Residents	0	0	0	0	0	0	0	0
Alternative III	Campus/Hill Area	63,534	0	0	0	0	0	0	0
Alternative III	Off-Campus	75,995	75,995	75,995	0	0	0	0	0
Alternative III	Res w/ PILOT	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033
Alternative III	Retail /w PILOT	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481
Alternative III	Students	0	0	0	0	0	0	0	0
Alternative III	Academic Staff	0	0	0	0	0	0	0	0
Alternative III	Staff	0	0	0	0	0	0	0	0
Alternative III	Visitors	0	0	0	0	0	0	0	0
Alternative III	UC Residents	294	294	294	294	294	294	294	294
Alternative IV	Campus/Hill Area	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288
Alternative IV	Off-Campus	78,966	78,966	78,966	78,966	78,966	78,966	78,966	78,966
Alternative IV	Res w/ PILOT	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033
Alternative IV	Retail /w PILOT	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481
Alternative IV	Students	338	338	338	338	338	338	338	338
Alternative IV	Academic Staff	60	60	60	60	60	60	60	60
Alternative IV	Staff	73	73	73	73	73	73	73	73
Alternative IV	Visitors	13	13	13	13	13	13	13	13
Alternative IV	UC Residents	294	294	294	294	294	294	294	294





Table DB-1  
Project Description Database  
Alternative IV--Full Occupancy

Alternative Name	Land Use	Assessed Value		Total Sq.Ft./ Persons	1990	1991	1992	1993	1994	1995	1996	1997
		New/Sq.Ft.	Existing									
Annual Sq.Ft./Persons												
Alternative I	Campus/Hill Area	0	0	1,044,605	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288
Alternative I	Off-Campus	0	0	1,263,450	78,966	78,966	78,966	78,966	78,966	78,966	78,966	78,966
Alternative I	Res w/ PILOT	0	0	400,523	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033
Alternative I	Retail /w PILOT	0	0	71,700	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481
Alternative I	Students	0	0	(1,164)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)
Alternative I	Academic Staff	0	0	740	46	46	46	46	46	46	46	46
Alternative I	Staff	0	0	432	27	27	27	27	27	27	27	27
Alternative I	Visitors	0	0	0	0	0	0	0	0	0	0	0
Alternative I	UC Residents	0	0	4,702	294	294	294	294	294	294	294	294
Alternative II	Campus/Hill Area	0	0	1,044,605	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288
Alternative II	Off-Campus	0	0	609,700	76,213	76,213	76,213	76,213	76,213	76,213	76,213	76,213
Alternative II	Res w/ PILOT	0	0	100,523	25,131	25,131	25,131	25,131	0	0	0	0
Alternative II	Retail /w PILOT	0	0	9,700	2,425	2,425	2,425	2,425	0	0	0	0
Alternative II	Students	0	0	(1,164)	(73)	(73)	(73)	(73)	(73)	(73)	(73)	(73)
Alternative II	Academic Staff	0	0	740	46	46	46	46	46	46	46	46
Alternative II	Staff	0	0	432	27	27	27	27	27	27	27	27
Alternative II	Visitors	0	0	0	0	0	0	0	0	0	0	0
Alternative II	UC Residents	0	0	917	229	229	229	229	0	0	0	0
Alternative III	Campus/Hill Area	0	0	571,805	63,534	63,534	63,534	63,534	63,534	63,534	63,534	63,534
Alternative III	Off-Campus	0	0	835,950	75,995	75,995	75,995	75,995	75,995	75,995	75,995	75,995
Alternative III	Res w/ PILOT	0	0	400,523	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033
Alternative III	Retail /w PILOT	0	0	71,700	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481
Alternative III	Students	0	0	0	0	0	0	0	0	0	0	0
Alternative III	Academic Staff	0	0	0	0	0	0	0	0	0	0	0
Alternative III	Staff	0	0	0	0	0	0	0	0	0	0	0
Alternative III	Visitors	0	0	0	0	0	0	0	0	0	0	0
Alternative III	UC Residents	0	0	4,702	294	294	294	294	294	294	294	294
Alternative IV	Campus/Hill Area	0	0	1,044,605	65,288	65,288	65,288	65,288	65,288	65,288	65,288	65,288
Alternative IV	Off-Campus	0	0	1,263,450	78,966	78,966	78,966	78,966	78,966	78,966	78,966	78,966
Alternative IV	Res w/ PILOT	0	0	400,523	25,033	25,033	25,033	25,033	25,033	25,033	25,033	25,033
Alternative IV	Retail /w PILOT	0	0	71,700	4,481	4,481	4,481	4,481	4,481	4,481	4,481	4,481
Alternative IV	Students	0	0	5,408	338	338	338	338	338	338	338	338
Alternative IV	Academic Staff	0	0	953	60	60	60	60	60	60	60	60
Alternative IV	Staff	0	0	1,174	73	73	73	73	73	73	73	73
Alternative IV	Visitors	0	0	207	13	13	13	13	13	13	13	13
Alternative IV	UC Residents	0	0	4,702	294	294	294	294	294	294	294	294





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